BUACHIDZE, D.N.

Morphological changes in the pancreas in experimental obstructive jaundice. Soob.AN Gruz.SSR 22 no.5:597-599 My '59.
(MIRA 12:11)

1. Akademiya nauk Gruzinskoy SSR, Institut eksperimental'noy i klinicheskoy khirurgii i gematologii, Tbilisi. Predstavlano akademikom K.D.Eristavi.
(PANCREAS) (BILIOUS DISEASES AND BILIOUSNESS)

BUACHIDZE, D.N.

Changes in the external secretion of the pancreas in experimental cholemia and following restoration of the passage of bile into the intestine. Soob.AN Gruz.SSR 23 no.5:607-610 N '59. (MIRA 13:6)

1. Institut eksperimental'noy i klinicheskoy khirurgii i gematologii AN GruzSSR, Tbilisi. Predstavleno akademikom K.D.Eristavi.
(PANCREAS) (BILIOUS DISEASES AND BILIOUSNESS)

BUACHIDZE, D.N., Cand Med Sci -- (diss) "Extra-secretory functional changes in the pancreas gland in obturational yellow jaundice (in experimentation)." Tbilisi, 1960. 19 pp; (Tbilisi State Medical Inst); 200 copies; price not given; (KL, 27-60, 159)

ODISHVILI, G.Ya.; BUACHIDZE, D.N.; TEVDORADZE, L.Sh.

Changes in the exosecretory functions of pancreas in extensive resection of the jejunum. Report No.1. Trudy Inst.eksp.i klin. khir. i gemat. AN Gruz.SSR 10:193-198 '62. (MIRA 16:2)
(PANCREAS—SECRETIONS) (JEJUNUM—SURGERY)

BUACHIDZE, D.N.

Exocrine functional changes in the pancreatic gland during hibernation in an experiment. Trudy Inst.eksp.i klin.khir. i gemat. AN Gruz.SSR 10:199-205 '62. (MIRA 16:2)
(PANCREAS--SECRETIONS) (HIBERNATION)

BOICHUZE, M.N.

Changes in external and internal secretions of the pancreas during hibernation and hypothermia. Trudy Inst. eksp. i klin. khir. i gemat. AN Gruz. SSR 31:117-126 '63. (MIRA 17:8)

BUACHIDZE, D.N.

Incretory changes in the pancreas in mechanical jaundice and the degree of their reversibility following the reestablishment of the discharge of bile. Trudy Inst. eksp. i klin. khir. i gemat. AN Gruz. SSR 11 :139-142 '63. (MIRA 17:8)

ODISHVILI, G.Ya.; BUACHIDZE, D.N.; TEVDORADZE, L.Sh.

Functional changes in the external pancreatic secretion in relation to an extensive resection of the ileum. Soob. AN Gruz. SSR 30 no.3:343-346 Mr '63. (MIRA 17:6)

1. AN Gruzinskoy SSR, Institut eksperimental'noy i klinicheskoy khirurgii i gematologii, Tbilisi. Predstavleno akademikom K.D. Eristavi.

BUACHIDZE, Daredzhan Nikolayevna

[Functional and morphological changes in the pancreas in obturation of the bile ducts] [Funktsional'nye i morfologicheskie izmeneniia podzheludochnoi zhelezy pri obturatsii zhelchnykh putei. Tbilisi, Sabchota Sakartvelo] 1964. 131 p. [In Georgian] (MIRA 18:7)

BUACHIDZE, Dzh.V.

Study of the aerodynamics of currents in low-pressure injection burners. Trudy Inst. energ. AN Gruz. SSR 17:257-272 '63.
(MIRA 17:7)

BUACHIDZE, Dzh.V.

Results of the study of a gas combustion process in low-pressure injection burners. Soob. AN Gruz. SSR 37 no.3:645-652 Mr '65. (MIRA 18:5)

1. Gruzinskiy institut energetiki imeni Didebulidze, Tbilisi. Submitted October 8, 1964.

BUACHIDZE, G.T.; SIKHARULIDZE, G.G.

Occluded gases of diabases in Borzhomi District. Soob. AN Gruz. SSR 39 no.2:349-355 Ag '65. (MIRA 18:9)

1. Nauchno-issledovatel'skaya laboratoriya gidrogeologicheskikh i inzhenerno-geologicheskikh problem Gruzinskogo politekhnicheskogo instituta imeni Lenina. Submitted February 12, 1965.

USSR/Human and Morphology (Normal and Pathological). S-1
Digestive System. Digestive Tract and Glands

Abs Jour: Ref Zhur - Biol., No 19, 1958, 88330

Author : Buachidze, G. P.

Inst : Tbilisi Medical Institute

Title : Pathomorphological Changes of the Intestinal Wall and the Liver in Experimental Intestinal Obstruction.

Orig Pub: Tbilisis sameditsina instituti. Shromebi, Tr. Tbilissk. med. in-t, 1957, 15, 156-162

Abstract: Obstruction of the ileum with bypass anastomosis and without it, and with ligature of the intenstines blood vessels, was established in dogs. It was demonstrated that in the presence of bypass anastomosis, the excluded loop underwent atrophic changes. The

Card 1/2

USSR/Human and Morphology (Normal and Pathological). Digestive S-1
System. Digestive Tract and Glands

Abs Jour: Ref Zhur - Biol., No 19, 1958, 88330

Abstract: liver suffered very little damage. In the absence of anastomosis, the damage was severe, particularly in the presence of an acute circulatory disorder in the mesentery. Degeneration, necrobiosis and atrophy of the liver cells was noted.

Card 2/2

BUACHIDZE, G.P., Cand Med Sci -- (diss) "On the question of thanatogenesis in the case of acute intestinal obstruction." Tbilisi, 1958, 22 pp. (Tbilisi State Med Inst) 200 copies (KL, 21-58, 92)

DZHIBLADZE, N.V.; KIGURADZE, E.Sh.; BUACHIDZE, G.P.

Changes in the blood system during intestional obstructions.
Soob. AN Gruz. SSR 20 no.1: 105-112 Ja '58. (MIRA 11:6)

1.Institut eksperimental'noy i klinicheskoy khirurgii i gematologii AN GruzSSR, Tbilisi. Predstavleno akademikom K.D. Eristavi.
(BLOOD--ANALYSIS AND CHEMISTRY) (INTESTINES--OBSTRUCTIONS)

BUACHIDZE, G.P.

Autotransplantation of the sciatic nerve. Trudy Inst.eksp.i klin. khir.i gemat. AN Gruz.SSR 10:299-302 '62. (MIRA 16:2)
(SCIATIC NERVE—TRANSPLANTATION)

BUSCHIZZE, G.F.

Use of lysthenon in tracheal intubation. Trudy Inst. eksp. i klin. khir. i gemat. AN Gruz. SSR 11:53-55 '63.

(MIRA 17:8)

BUACHIDZE, G.P.

Morphological changes in isolated nerves preserved in the Zhes solution for the conservation of tissues and in dry form at a temperature of 30° centigrade. Trudy Inst. eksp. i klin. khir. i gemat. AN Gruz. SSR 11:173-175 '63. (MIRA 17:8)

DURMISHIDZE, S.V.; PURTSELADZE, D.L.; BUACHIDZE, G.S.[translator]; TSERETELI, G.V., red.; NINUA, K.V., red.izd-va; DZHAPARIDZE, N.A., tekhn. red.

[Academy of Sciences of Georgia] Akademiia nauk Gruzinskoi SSR. Academie des sciences de la R.S.S. de Georgie. Tbilisi. 1962. 70 p. (MIRA 16:10)

1. Akademiya nauk Gruzinskoy SSR, Tiflis.
(Academy of Sciences of Georgia)

BUACHIDZE, I.D.

The cystine reductase of bakers' yeast and of peas. N. I. Proskuryakov and I. D. Buachidze (State Univ., Moscow). *Biokhimiya* 21, 709-803(1956).—The results of the expts. showed that in compressed bakers' yeast and in the seeds of the pea plant enzyme systems were present which brought about the reduction of cystine. The reduction was catalyzed by the enzymes by the direct action of the reduced diphosphopyridine nucleotide (DPN). This explained the complete loss of activity of this enzyme following prolonged dialysis. The reduction of cystine proceeded at a greater rate under anaerobic conditions, but it could take place in the presence of air. The reduction of cystine by the exts. of the seeds of the pea plant was activated by the addn. of malic acid and glucose-1-phosphate, which acted as H donors. The partially purified cystine reductase, obtained by the ppta. of the phosphate ext. of the seeds of the pea plant with an 80% soln. of acetone in the cold, possessed the power to reduce cystine in an exptl. medium contg. cystine, DPN, and malic acid.

B. S. Levine

BUACHIDZE, I.M.

Some hydrogeological problems of the Alazan artesian basin. Soob.AN Gruz.SSR 8 no.5:305-312 '47. (MLRA 9:7)

1.Akademiya nauk Gruzinskoy SSR, Institut geologii i mineralogii, Tbilisi. Predstavlene deystvitel'nym chlenom Akademii A.I.Dzhanelidze.
(Alazan Valley--Water, Underground)

BUACHIDZE, I.M.

Hydrogeology of the Shiraki Steppe. Soob.AN Gruz.SSR 8:no.8:525-532 '47. (MIRA 9:7)

1.Akademiya nauk Gruzinskoy SSR, Insitut geologii i mineralogii, Tbilisi. Predstavlene deystvitel'nym chlenom Akademii A.I.Dzhanelidze.
(Shiraki Steppe--Water, Underground)

BUACHIDZE, I. M.

Buachidze, I. M.- "On the occurrence of artesian reservoirs in the territory of Georgia," Soobshch. Akad. nauk Gruz. SSR, 1948, No. 8, p. 481-87, - Bibliog: 9 items

SO: U-4934, 29 Oct 53, (Letopis 'Zhurnal 'Nykh Statey, No. 16, 1949).

BUACHIDZE, I. M.

USSR/Cosmochemistry. Geochemistry. Hydrochemistry. D

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 26596.

Author : Buachidze, I.M.
Inst : Georgian Polytechnical Institute.
Title : Thermal Levels of Underground Waters of Some Artesian Basins of Western Georgia.

Orig Pub : Tr. Gruz. politekhn. in-ta, 1956, No. 3 (44), 22 - 31.

Abstract : The author selected several artesian basins in the Colchis lowland, in which levels of thermal waters of various mineralization were tapped. The tertiary waters of the temperature of 33 to 48° are mainly sodium chloride ones with a mineralization of 1.8 to 65.0 g per lit. The Upper Cretaceous waters of the temperature of 23 to 24° are sodium chloride

Card 1/2

USSR/Cosmochemistry. Geochemistry. Hydrochemistry. D

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 26596.

ones with a mineralization of 5 to 12 g per lit. The Lower Cretaceous waters of the temperature chiefly of 70 to 85% are sulfate-chloride and sulfate-hydrocarbonate ones with a mineralization of mainly 0.8 to 2.5 g per lit. One case of sodium chloride water with the mineralization of 17.2 g per lit was noted.

Card 2/2

BUACHIDZE, I.M.; NASBERG, V.M.

Effect of the diameter of a completed well on its yield.
Razved.i okh.nedr 21 no.2:42-45 Mr-Ap '56. (MLRA 9:12)

(Hydrodynamics) (Water, Underground)

BUACHIDZE, I.M.

Formation of underground waters in folded mountain regions. Trudy Lab.gidrogeol.probl. 16:61-66 '58. (MIRA 12:2)

1. Tbilisskiy gosudarstvennyy politekhnicheskiy institut imeni Kirova.

(Georgia--Water, Underground)

BUACHIDZE, I.M.; ZAUTASHVILI, B.Z.

Hydrochemistry of the basic components of mineralization and ore elements in the Dambludskoye complex metal deposit. Trudy GPI [Gruz.] no.2:47-52 '63. (MIRA 17:9)

CHKHEYDZE, M.V.; BUACHIDZE, L.N.

Professor K.D.Eristavi; on his 70th birthday. Vest. khir. 84 no.5: 152-153 My '60. (MIRA 13:12)

(ERISTAVI, K.D.)

BUACHIDZE, L.N.; SMOL'NIKOV, V.P.

Xenon anesthesia in man. Vest.AMN SSSR 17 no.8:22-25 '62.
(MIRA 15:12)

1. Laboratoriya anesteziologii Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR.
(XENON) (ANESTHETICS)

BUACHIDZE, L.N.

Porphyria and its significance in anesthesiology. Vest.AMN SSSR 17 no.8:75-82 '62. (MIRA 15:12)

1. Laboratoriya anesteziologii Instituta eksperimental'noy i klinicheskoy onkologii AMN SSSR.
(PORPHYRINURIA) (ANESTHESIOLOGY)

GVERDTSITELI, I.M.; BUACHIDZE, M.A.

Action of $HGe(C_2H_5)_3$ on diacetylene glycols in the presence of H_2PtCl_6. Dokl. AN SSSR 158 no.1:147-150 S-O '64 (MIRA 17:8)

1. Tbilisskiy gosudarstvennyy universitet. Predstavleno akademikom A.N. Nesmeyanovym.

GVERDTSITELI, I.M.; BUACHIDZE, M.A.

Action of triethylgermane on diacetylene glycols in the presence of H_2PtCl_6. Soob. AN GruzSSR 37 no.2:323-330 F '65. (MIRA 18:3)

1. Tbilisskiy gosudarstvennyy universitet. Submitted July 23, 1964.

BUACHIDZE, O. SH.

BUACHIDZE, O. SH.--"Open Fractures of Hip Diaphysis and their Therapy by Metal Pin Fixation Inside the Bone (Experimental Investigation)."*(Dissertation for Degrees in Science and Engineering Defended at USSR Higher Educational Institutions.) Min of Health Protection USSR, Central Inst for Postgraduate Training for Physicians, Moscow, 1955

SO:Knizhnaya Letopis', No. 25, 18 Jun 55

* For Degree of Candidate in Medical Sciences

BUACHIDZE, O.Sh., kand.med. nauk

Injury of the knee joint menisci and their treatment. Trudy mol. nauch. sotr. MONIKI no.1:5-11 '59 (MIRA 16:11)

Uncomplicated fractures of the spine and their treatment. Ibid.:12-17

1. Iz 2-y khirurgicheskoy kliniki (zav. - prof. Ya.G. Dubrov) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta imeni M.F.Vladimirskogo.

*

BUACHIDZE, O.Sh., kand.med.nauk

Use of capron in plastic operations on the flexor tendons of the fingers; experimental study. Ortop.,trav.i protez. 20 no.10:67-69 O '59. (MIRA 13:2)

1. Iz 2-y khirurgicheskoy kliniki (zav. - prof. Ya.G. Dubrov) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta imeni M.F. Vladimirskogo (dir. - kand.med.nauk P.M. Leonenko).
(FINGERS musc. & tendons)

BUACHIDZE, O.Sh., kand.med.nauk

Hemophilic arthroses and contracture of the joints and their treatment. Khirurgiia 37 no.5:64-70 My '61. (MIRA 14:5)

1. Iz 2-y khirurgicheskoy kliniki (zav. - prof. Ya.G. Dubrov) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta imeni M.F. Vladimirskogo.
(HEMOPHILIA) (CONTRACTURE)

DUBROV, Ya.G., prof.; BUACHIDZE. O.Sh., kand. med. nauk; FEDOTOV, P.D.

Bone chondroma. Vest. khir. 91 no.11:41-46 N '63.
(MIRA 17:12)

1. Iz ortopedo-travmatologicheskogo otdeleniya (rukovoditel' - prof. Ya.G.Dubrov) i rentgeno-radiologicheskogo otdela (rukovoditel' - prof. V.I.Petrov) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta. Adres avtorov: Moskva, ul. Shchepkina, d. 61/2, ortopedo-travmatologicheskoye otdeleniye.

DUBROV, Ya.G., prof.; BUACHIDZE, O.Sh., kand.med.nauk; FEDOTOV, P.D.

Solitary bone cysts. Ortop., travm. i protez. 25 no.3:19-23 Mr '64. (MIRA 18:3)

1. Iz ortopedo-travmatologicheskogo otdeleniya (rukovoditel' - prof. Ya.G.Dubrov) i rentgeno-radiologicheskogo otdela (rukovoditel' - prof. V.I.Petrov) Moskovskogo oblastnogo klinicheskogo instituta (dir. - kand.med.nauk P.M.Leonenko). Adres vatorov: Moskva I-110, ul. Shchepkina, d.61/2, Moskovskiy oblastnoy klinicheskiy institut.

DUBROV, Ya.G., prof.; BUACHIDZE, O.Sh., kand. med. nauk; FEDOTOV, P.D.

Osteoblastoclastoma (giant-cell tumor). Khirurgiia 40 no.2: 113-121 F '64. (MIRA 17:7)

1. Ortopedo-travmatologicheskoye otdeleniye (zav. - prof. Ya.G. Dubrov) i rentgeno-radiologicheskiy otdel (zav. - prof. V.I. Petrov) Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta im. Vladimirskogo.

DUBROV, Ya.G., prof.; BUACHIDZE, O.Sh., kand. med. nauk

Neglected subcutaneous ruptures of muscles and tendons. Ortop., travm. i protez. 26 no.2:69-70 F '65. (MIRA 18:5)

1. Iz ortopedo-travmatologicheskogo otdeleniya (rukovoditel' - prof. Ya.G.Dubrov) Moskovskogo oblastnogo klinicheskogo instituta imeni Vladimirskogo (dir. - zasluzhennyy vrach RSFSR kand. med. nauk P.M. Leonenko). Adres avtorov: Moskva I-110, ul. Shchepkina, d.61/2, 20-y korpus, ortopedo-travmatologicheskoye otdeleniye.

BUACHIDZE, S.I.; KEZELI, T.A.

Effect of drying methods on vitamin preservation in the fruit of Japanese persimmon. Biokhim. pl. i ovoshch. no.4:69-72 '58. (MIRA 11:10)

1. Gruzinskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva; Institut botaniki AN Gruzinskoy SSR.
(Persimmon) (Fruit--Drying) (Vitamins)

[redacted], S. I., aspirant.

Drying persimmons in high-frequency electric current. Nauch. trudy VIESKH 4:182-204 '59. (MIRA 13:11)
(Persimmon—Drying)

BUACHIDZE, S.I.; KEKELI, T.A.

Effect of some drying methods on the preservability of vitamins in the fruit of Japanese persimmon. Trudy Tbil.bot.inst. 20:187-192 '59. (MIRA 13:8)
(Persimmon) (Vitamins) (Fruit—Drying)

BUACHIDZE, S. I., Cand Tech Sci -- (diss) "Research into electrical methods of drying sub-tropical date plums." Tbilisi, Georgian Agricultural Inst Press, 1960. 23 pp; with charts; (Ministry of Agriculture Georgian SSR, Georgian Order of Labor Red Banner Agricultural Inst); 150 copies; free; (KL, 17-60, 151)

BUACHIDZE, S.I.

Electrophysical properties of persimmon fruits. Kons.i ov.prom. 17 no.7:15-18 Jl '62. (MIRA 15:6)

1. Nauchno-issledovatel'skiy institut pishchevoy promyshlennosti sovnarkhoza Gruzinskoy SSR.
(Georgia--Fruit--Drying)
(Fruit--Electric properties)

MESKHISHVILI, Givi Shalovich; BUACHIDZE, Sergey Ivanovich

[Drying of foodstuffs] [Sushka pishchevykh produktov. Tbilisi, Gos.izd-vo "TSodna"] 1963. 274 p. [In Georgian]
(MIRA 17:5)

BUACHIDZE S. M.

BUACHIDZE, S. M.

Buachidze, S. M.: "Changes in the spinal column in the presence of tetanus," Trudy Kazansk. gos. stomatol. in-ta, Issue 2, 1949, p. 622-626

SO: U-5240, 17 Dec. 53, (Letopis 'zhurnal 'nykh Statey, No. 25, 1949).

BUACHIDZE, S. M.

7880. BUACHIDZE, S. M. Lecheniye perelomov gipsovoy povyazkoy. tbilisi, Gruzmedgiz, 1954. 30 S. S ill. 20 sm. 2.000 EKZ. 65 K.-- NA gruz. yaz.-- (55-3822)

616-001.5 / 617.089.4

SO: Knizhnaya Letopis', Vol. 7, 1955

BUACHIDZE, S.M.

Sleep therapy for gastric and duodenal ulcers. Soob AN.Gruz.SSR no.2:147-151 '55. (MLRA 9:2)

1.Tbilisskiy gosudarstvennyy meditsinskiy institut.Predstavlene deystvitel'nym chlenom Akademii K.D.Eristavi.
(Ulcers) (Sleep--Therapeutic use)

BUACHIDZE, S.M., kand.med.nauk

Spinal fractures in tetanus. Khirurgiia 33 no.9:112-118 S '57.
(MIRA 11:4)

1. Iz kliniki gospital'noy khirurgii (zav. - deystvitel'nyy chlen Akademii nauk Gruzinskoy SSR zasluzhennyy deyatel' nauki prof. K.D. Kristavi) Tbilisskogo gosudarstvennogo meditsinskogo instituta.
(TETANUS, compl.
spine fract.)
(SPINE, fract.
in tetanus)

BUACHIDZE, S.M.

Benign tumors of the mediastinum from data of clinical material.
Khirurgiia 36 no.1:101-103 Ja '60. (MIRA 13:10)
(MEDIASTINUM—TUMORS)

BUACHIDZE, S.M., prof.

Problem of gastric tetany. Khirurgiia 37 no.2:44-48 F '61.
(MIRA 14:1)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - akad. AN Gruzinskoy SSR zasluzhennyy deyatel' nayki prof. K.D. Eristavi) Tbilisskogo meditsinskogo instituta.

(PEPTIC ULCER) (TETANY)

BHACHIDZE, S.M.

Plastic surgery of the esophagus using a flap of the diaphragm. Trudy Inst.eksp.i klin.khir.i gemat. AN Gruz.SSR 10:317-322 '62. (MIRA 16:2)

(ESOPHAGUS--SURGERY) (DIAPHRAGM) (SURGERY, PLASTIC)

BUACHIDZE, S.M.

Echinococcus of the spleen. Trudy Inst.eksp.i klin.khir.i gemat.
AN Gruz.SSR 10:323-329 '62. (MIRA 16:2)
(SPLEEN--HYDATIDS)

BUACHIDZE, Sh. N.

NOVITSKIY, N.; BUACHIDZE, Sh.N., red.; ZHIVIDZE, D.I., tekhn.red.

[Industrial Georgia] Industrial'naia Gruziia. Tbilisi, Tekhnika da shkola, 1957. 183 p. (MIRA 11:7)
(Georgia--Industries)

189T16

BUACHIDZE, S. R.

USSR/Electricity - Transmission, Power May 51

"Regulation of Direct-Current Power Transmission," S. R. Buachidze, Cand Tech Sci, L'vov Polytech Inst

"Elektrichestvo" No 5, pp 3-8

Thesis is that use of dc to interconnect ac systems would make possible very flexible regulation of the frequency, voltage, and shared active and reactive powers of the systems. Submitted 29 Sep 50.

189T16

8(3) SOV/105-59-5-12/29

AUTHOR: Buachidze, S. R., Docent, Candidate of Technical Sciences

TITLE: Some Considerations About Parallel Operation of d.c. and a.c. Lines (Nekotoryye soobrazheniya o parallel'noy rabote liniy postoyannogo i peremennogo toka)

PERIODICAL: Elektrichestvo, 1959, Nr 5, pp 54-56 (USSR)

ABSTRACT: The characteristics of parallel operation of d.c. and a.c. lines are described; this subject had already been treated by the author in 1951. Figure 1b shows one of the possible a.c. wirings which can replace a d.c. transmission: it is a quickly controllable synchronous motor generator. In stabilized operation, the load of the d.c. transmission depends on 7 parameters (Refs 1,2, 3,4). If the influence of the frequency on the reactances x_α and x_β is neglected, only the two modules U_α and U_β of the rectifier, or the inverter, are left among the d.c. parameters which affect the operation of the a.c. elements in the system.- The synchronization of the systems for the a.c transmission is investigated, and it is shown that the same can be put into practice in the following way: the governor of the real and re-

Card 1/3

actance output of the d.c. transmission is made dependent on the synchronizer. The latter acts on the two mentioned outputs and gives the impulse for turning on the a.c. switch. The control of the real power to be transmitted, and the distribution of the same for d.c. and a.c. transmissions are investigated. It is shown that the governor of the d.c. transmission can carry out a proportional distribution of the output, as well as the control of the load in the a.c. transmission and the control of the angle θ_v (angle between the vectors $\bar{U}_\alpha$ and $\bar{U}_\beta$). At a change in the direction of the power transmission in the a.c. line, this governor effects that the power in the d.c. line is transmitted in the same direction.- The control of the reactance output of the transmission is investigated, and it is shown that such control of the d.c. transmission can be carried out both according to the amount and to the sign (Ref 2). The short-circuit currents are investigated, and it is shown that the action of the current-, voltage-, and output limiters as they are used in the wirings to control a d.c. transmission (Refs 1,2) equals an increase of the equivalent resistance of the d.c. transmission. These governors or limiters reduce the

current impulse caused by the short circuit, carry out the automatic reloading faster than with the automatic reconnection of an a.c. line, and can therefore play an important part in the increase in dynamic stability of the system. The governor of the d.c. transmission acting as a function of the angle $\theta_{\blacktriangledown}$ is able to prevent an asynchronous pendulum motion. In an extreme case, such pendulum motion can be eliminated by turning off the switch of the a.c. line, maintaining the connection between the systems over the d.c. line. There are 2 figures and 4 references, 3 of which are Soviet.

SUBMITTED: June 17, 1958

Card 3/3

BUACHIDZE, S.R., kand.tekhn.nauk (Tbilisi)

Regulation of a d.c. transmission line working in parallel with an a.c. transmission line. Elektrichestvo no.9:14-18 S '60. (MIRA 13:10)

(Electric power distribution)

ACC NR: AR6000662 SOURCE CODE: UR/0372/65/000/008/G001/G001

AUTHOR: Buachidze, S. R.

TITLE: An information and control system serviced by interconnected computers

SOURCE: Ref. zh. Kibernetika, Abs. 8G5

REF SOURCE: Tr. Gruz. politekhn. in-t, no. 1 (99), 1965, 95-100

TOPIC TAGS: information center, computer control system, computer system, control circuit

ABSTRACT: Concepts of elements of the system are introduced: the external and internal objects of the computer as well as the intermediate connecting link. One of the system's computers handles the function of the distributor of load between the other computers and (or) of the basic data storage center for the system. Owing to the presence of correlation between objects the correlation control method is employed to determine damage to elements of the computer-connecting link-object circuit. A classification of computers from the standpoint of object-servicing speed is presented. A computer operates synchronously if $\tau_B(i) = \tau_{mc}(i)$,

UDC: 681.142.4

Card 1/2

where $\tau_s(i)$ is the computed maximum permissible duration of the interval, selected from the standpoint of the optimal moment of provision of control information to the object; $\tau_{me}(i)$ is the actual duration of the interval. If the computer operates below capacity, $\tau_s(i) > \tau_{me}(i)$; if it is overloaded, $\tau_s(i) < \tau_{me}(i)$. The distribution of load between computers according to the criterion of time assures an increase in the speed of servicing of the object and may avert the danger of the overloading of computers. When methods of mathematical programming are applied, allowance is made for the system's ability to operate in modes with elements of frequently varying quality -- objects, intermediate links and the computers themselves. V. L. [Translation of abstract]

SUB CODE: 09, 12

BUACHIDZE, V. M.

BUACHIDZE, V. M.

"Problem of the Planning of Irrigated Grounds and Irrigation Projects Under the Conditions in Georgia." Cand Tech Sci, Georgian Agricultural Inst, Tbilisi, 1954. (RZhGeol, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556 24 Jun 55

USSR / Soil Science. Tillage. Reclamation. Erosion. J

Abs Jour: Ref Zhur-Biol., No 2, 1959, 6111.

Author : Buachidze, V. M.
Inst : Georgian Sci. Res. Inst. of Hydroengineering and Reclamation.
Title : Certain Features of Irrigation at Samgori.

Orig Pub: Tr. Gruz. n.-i. in-ta didrotekhn. i melior., 1957, vyp. 18-19, 34-40.

Abstract: No abstract.

Card 1/1

BUACHIDZE, V.M.

Irrigation erosion in Samgora. Trudy GruzNIIGiM no.20:16-22 '58.
(MIRA 15:5)
(Samgora--Irrigation) (Erosion)

BUACHIDZE, V.N.; NATSVLISHVILI, G.A.; GVANTSELADZE, O.D.; KAZARO, I.L.

Role of ergometry, spirography, and electrocardiography in evaluating the functional state of the heart muscle in tyrotoxicosis. Soob. AN Gruz. SSR 39 no.1:225-230 Jl '65.
(MIRA 18:10)

1. Institut eksperimental'noy i klinicheskoy khirurgii i gematologii AMN SSSR, Tbilisi. Submitted November 9, 1964.

BUADZE, A.I.

Approximation and smoothness modulus of two conjugate functions of two variables. Soob. AN Gruz. SSR 29 no.6:657-660 D '62. (MIRA 18:3)

1. Gruzinskiy politekhnicheskiy institut imeni Lenina. Submitted August 21, 1961.

BUADZE, A.I.

Differentials of fractional order and best approximation of functions. Soob. AN Gruz. SSR 30 no.3:273-280 Mr '63. (MIRA 17:6)

1. Gruzinskiy politekhnicheskiy institut imeni Lenina, Tbilisi. Predstavleno akademikom V.D. Kupradze.

BUADZE, A.I.

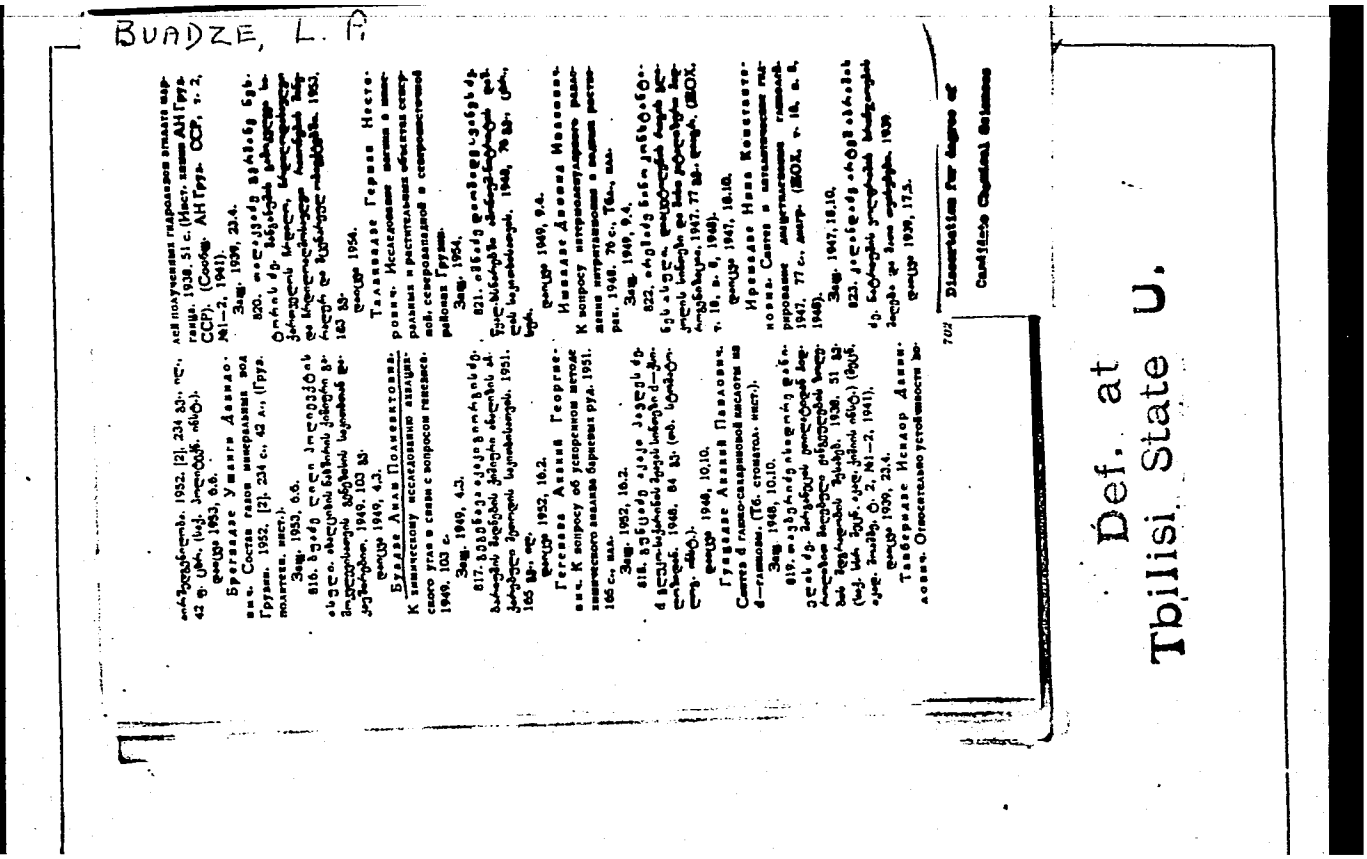
Approximation of functions by means of Bernstein - Rogozinskii sums. Soob. AN Gruz. SSR 33 no. 2:285-292 F '64. (MIRA 17:9)

1. Gruzinskiy politekhnicheskiy institut imeni Lenina, Tbilisi. Predstavleno akademikom N.P. Vekua.

NAKHMANOVICH, M.L.; MOROZOV, N.M.; BUADZE, L.G.; TEMKIN, M.I.

Kinetics of the catalytic exchange of deuterium between water vapor and hydrogen on various surfaces. Dokl. AN SSSR 148 no.6:1346-1349 F '63. (MIRA 16:3)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova. Predstavleno akademikom N.M.Zhavoronkovym.
(Catalysis) (Water vapor) (Deuterium)



BUADZE, L. A

Def. at
Tbilisi State U.

BUADZE, V.I.; GABASHVILI, T.N.; ZAGYU, T.N.

Petrological and mineralogical characteristics of Poladauri iron ore deposits. Geol.sbor.[Kavk.] no.1:10-23 '59.
(MIRA 13:1)
(Georgia--Iron ores)

RUBINSHTEYN, M.M.; BUADZE, V.I.

Age of ore-bearing strata of the Khudes (Kizylkol') copper pyrite deposit. Dokl.AN SSSR 138 no.6:1428-1430 Je '61. (MIRA 14:6)

1. Geologicheskiy institut AN GruzSSR, Kavkazskiy institut mineral'nogo syr'ya. Predstavleno akademikom D.I.Shcherbakovym.
(El'brus region--Geology, Stratigraphic)

The E.P.R.-Spectra and the Kinetics of the Accumulations of Radicals in the Radiolysis of Some Aromatic Compounds

S/020/60/130/06/031/059
B004/B007

of benzene shows a well resolved triplet, the central component of which is, however, considerably more intense than corresponds to the binomial law. This is explained by the superposition of the triplet and a single line. The triplet is ascribed to the radical C_6H_5, the unpaired electron of which enters into interaction with the adjacent H-atoms. The low yield in molecular hydrogen leads to the conclusion that the H-atoms mostly join the benzene ring, forming the radical C_6H_7, which produces the single line. The superfine structure of the e.p.r. spectrum of benzene becomes more distinct with rising temperature. This is explained by the quickening of the inhibited rotation round the axis of the sixth order, the existence of which was detected in the course of the investigation of nuclear resonance. The components of the e.p.r. spectra of terphenyls and ditolyls are also triplets, but they are not so distinctly resolved. These spectra are explained by the detachment of hydrogen atoms or CH_3-groups in paraposition to

the phenyl substituent, where the detached H or CH_3 again joins on the benzene ring, similar to the case of the radical C_6H_7.

The low resolution of the polyphenyl spectra is explained by delocalization of the unpaired electron. Table 1 shows the radical yields, figure 2, the kinetics of the accumulation of radicals. The low radical yields of ditolyls and terphenyls as against benzene agree with published data on the greater stability of polyphenyls (Ref 9). As regards the isomer yields, the differences found are within the error limits. The authors thank A. M. Brodskiy and V. B. Titov for the polyphenyls placed at their disposal and for discussing the results obtained, and they further thank V. N. Shamshev for taking part in the experiments. There are 2 figures, 1 table, and 13 references, 4 of which are Soviet.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences, USSR). Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya

67899

The E.P.R.-Spectra and the Kinetics of the Accumulations of Radicals in the Radiolysis of Some Aromatic Compounds

S/020/60/130/06/031/059
B004/B007

Akademii nauk SSSR (Institute of Chemical Kinetics and Combustion of the Siberian Department of the Academy of Sciences, USSR)

SUBMITTED: November 13, 1959

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5.4500(B)

68820

S/020/60/131/01/035/060
B004/B011

AUTHORS: Molin, Yu. N., Chkheidze, I. I., Petrov, Al. A., Buben, N. Ya., Voyevodskiy, V. V., Corresponding Member AS USSR

TITLE: Investigation of Processes of Energy Transfer in the Radiolysis of Certain Frozen Hydrocarbons

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 131, Nr 1, pp 125 - 128 (USSR)

ABSTRACT: The authors investigated the energy transfer in the compounds 1,1-dicyclohexyl dodecane (I), 1,1-diphenyl dodecane (II), 1-phenyl-1-cyclohexyl dodecane (III), which were irradiated with fast electrons (1.6 Mev), mixtures from I and II (1 : 1), as well as cyclohexane and benzene at -120°. The points of rupture in the chemical bonds were determined by taking the spectrum of electron paramagnetic resonance (E.P.R.). Furthermore, the energy transfer to the aromatic ring in compounds II and III was to manifest itself in a decrease of the yield in radicals due to the protective effect of the aromatic ring. Apparatus, method, and synthesis of compounds I - III had already been described in references 8 - 9. Figures 1,2 show the E.P.R. spectra taken at ~ 9400 megacycles. In the benzene ring

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S/020/60/131/01/035/060
B004/B011

Investigation of Processes of Energy Transfer in the Radiolysis of Certain Frozen Hydrocarbons by the E.P.R. Method

alone, a rupture of the chemical bond occurred in the case of the molecules of compounds II and III. As a consequence, there occurred an energy transfer to the ring. Figure 3 shows the kinetics of the accumulation of radicals. Compounds with benzene ring exhibited no deviation from linearity up to 100 Mrad, whereas in the case of I and cyclohexane, deviations occurred already with a radiation dose of 10 - 30 Mrad. The yield G_R on radicals is shown in table 1. G_R is lower in the case of compounds with benzene ring. The lower value of G_R in the case of a mixture of I and II indicates energy transfer from I to II. The almost trebled value of G_R for II and III as compared to benzene gives evidence of the lower stability of the substituted benzene ring. The authors thank G. K. Voronova for her cooperation. There are 3 figures, 1 table, and 11 references, 6 of which are Soviet.

68820

Investigation of Processes of Energy Transfer in the Radiolysis of Certain Frozen Hydrocarbons by the E.P.R. Method

S/020/60/131/01/035/060
B004/B011

ASSOCIATION: Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Chemical Kinetics and Combustion of the Siberian Department of the Academy of Sciences, USSR). Institut khimicheskoy fiziki (Institute of Chemical Physics). Institut geologii i razrabotki goryuchikh iskopayemykh Akademii nauk SSSR (Institute of Geology and Mining of Combustible Minerals of the Academy of Sciences, USSR)

SUBMITTED: November 4, 1959

Card 3/3

S/020/60/134/001/017/021
B004/B060

AUTHORS: Nikol'skiy, V. G., Buben, N. Ya.

TITLE: Radiothermoluminescence of Organic Compounds

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 1, pp. 134 - 136

TEXT: Many substances become luminescent on heating if previously irradiated at a low temperature with gamma rays or fast electrons. The authors wanted to study this phenomenon, and examined high-pressure polyethylene, low-pressure polyethylene, paraffin, octadecane, nonane, polyethyl siloxane, teflon, rubber, polyisobutylene, and cyclohexane. The samples were irradiated with fast electrons (1.5 Mev, 5.10^{5} rad/sec) in nitrogen atmosphere at 100°K, and then heated at a rate of 15 degrees per minute. The luminescence taken by means of a photomultiplier of the type ФЭУ-19 (FEU-19) was recorded by a recording potentiometer of the type ЭПП-09 (EPP-09) as a function of temperature. The spectral composition of emitted light has not yet been investigated. Two maxima were observed in high-pressure polyethylene. The first one, at about -120°C,

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is supposed to be connected with the structural transitions observed by other investigators (Refs. 3-6) in this temperature range. The second maximum at about -40°C corresponds to the vitrification temperature. The first maximum only arises in low-pressure polyethylene. The authors established furthermore that the position of the maxima, especially that of the second one, is dependent on the irradiation dose, the previous thermal history of the sample, and the heating rate. The shift of the second maximum corresponds to the shift in vitrification temperature. For polyethylene (Fig. 1) the authors conclude that the appearance of thermoluminescence is related to the reactivation of the inhibited molecular motion. In the other substances irradiated with 10^6 rad, the authors carried out only orientative studies, the results of which are compiled in Table 1, and which are compared with various physical data of these substances. Thermomechanical curves were drawn for rubber and polyisobutylene under a stress of 0.7 kg/cm^2 and a heating rate of 1 degree per minute (Fig. 2). The authors arrived at the conclusion that the occurrence of molecular motions and variations in the crystal lattice may be inferred from the form of the luminescence curve. They thank L. I. Golubenkova, co-worker of the Institut plastmass (Institute

of Plastics) for her investigation of the thermomechanical properties of polyisobutylene and rubber. There are 2 figures, 1 table, and 19 references: 2 Soviet, 14 US, 2 British, and 1 French.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

PRESENTED: April 28, 1960, by V. N. Kondrat'yev, Academician

SUBMITTED: April 22, 1960

BUBEN, N. YA.

33101
S/638/61/001/000/026/056
B104/B138

5.4600

AUTHORS: Molin, Yu. N., Chkheidze, I. I., Petrov, A. A., Buben, N. Ya., Voyevodskiy, V. V.

TITLE: Investigation of energy transfer processes during the radiolysis of congealed hydrocarbons, by the paramagnetic electron resonance method

SOURCE: Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu atomnoy energii. Tashkent, 1959. Trudy, v. 1. Tashkent, 1961, 178 - 181

TEXT: The following compounds were investigated: (I) 1,1-dicyclohexyl dodecane; (II) 1,1-diphenyl dodecane; (III) 1-phenyl 1-cyclohexyl dodecane. The energy transfer during radiolysis was determined by means of paramagnetic electron resonance, and from the total radiation yield. Paramagnetic electron resonance spectra were taken of compounds I - III, and of benzene and cyclohexane. The substances were irradiated with 1.6-Mev electrons at -120°C. The spectra were taken during irradiation with electrons. The cyclohexyl radical, RC_6H_{10}, was primarily formed when

Investigation of energy transfer...

irradiating compound I. Radicals are also formed by breaking C-H bonds. The spectra of the irradiated compounds II and III are equal, and similar to that of benzene. Two radicals are formed: the first by the removal of an H atom from the benzene ring, the second by addition of an H atom to a benzene ring. When irradiating a mixture of compounds I and II, radicals are mainly formed from molecules of compound II. In molecules of compounds II and III, it is mainly the bonds in the benzene rings which are broken. In compound I, the first rupture of C-H bonds may be accompanied by a reaction of the H atom, which then permits the formation of radicals. The production of radicals is linearly dependant on irradiation. The yield of radicals in compounds II and III is one order of magnitude smaller than that of compound I. The nearly equal yields of radicals of compounds II and III prove that the energy is transferred to the benzene ring. The yield of radicals in compounds II and III is almost three times that in benzene. This decrease in stability is explained by rapture of the symmetry of the benzene ring. There are 3 figures, 1 table, and 9 references: 4 Soviet and 5 non-Soviet. The four most recent references to English-language publications read as follows: Smaller B., Matheson M. S., J. Chem. Phys., 28, 1169, 1958; Alger R. S.

33101
S/638/61/001/000/026/056
B104/B138

Investigation of energy transfer...

Anderson T. H., Webb L. A. J. Chem. Phys., 30, 695, 1959; Rad. Res. 3, 1, 1955; Andrew E. R., Eades R. G. Proc. Roy. Soc., 216A, 398, 1953.

ASSOCIATION: Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya AN SSSR (Institute of Chemical Kinetics and Burning of the Siberian Department AS USSR)

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33104
S/638/61/001/000/029/056
B116/B102

54300 1273

AUTHORS: Buben, N. Ya., Koritskiy, A. T., Shamshev, V. N.

TITLE: Effect of additions on the formation of free radicals during paraffin radiolysis

SOURCE: Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu atomnoy energii. Tashkent, 1959. Trudy. v. 1. Tashkent, 1961, 192-195

TEXT: One and a half years ago, at the IKhF AN SSSR, direct measurements were started of the concentration and the radiative yield in free radicals in the solid phase at different temperatures by means of electron paramagnetic resonance. V. L. Tal'roze, Yu. N. Molin, V. V. Voyevodskiy and the authors have found already that at low temperatures the dependence of the free radical concentration in the frozen hydrocarbons and in polymers is non-linear already at low doses. If the doses are several hundred mrad the curve practically does not rise on further irradiation, although the forming radicals are stable. Later, the authors found that the conditions under which the radicals are formed vary considerably if a

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Effect of additions on the ...

may lead to recombination of the radicals under formation of double bonds and cross links. The deletion of the radicals, thus rendered more easy, causes a decrease in the concentration. Probably also the relatively rapid decrease in the radical yield due to an increase in the dose during the radiolysis of solid substances is related to the irregular radical distribution. This is confirmed (1) by a strong increase in the alkyl radical-yields during polyethylene radiolysis, which is preceded by the formation of a large number of double bonds due to irradiation (A. T. Koritskiy, Molin, V. N. Shamshev, N. Ya. Buben, Voyevodskiy); (2) formation of conjugate double bonds observed in the analysis of infrared spectra of polyethylene irradiated at low temperatures, (N. A. Slovokhotova, A. T. Koritskiy, N. Ya. Buben, Kargin). The authors will continue their investigations into the effect of additions on the radical yield in the radiolysis of frozen hydrocarbons and polymers. There is 1 figure.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics AS USSR)

21768
S/195/61/002/002/002/004
B101/B208

5.4300 1273, 1320 also 1138, 1160

AUTHORS: Molin, Yu. N., Chkheidze, I. I., Buben, N. Ya., Voyevodskiy, V. V.

TITLE: Study of energy transfer to aromatic groups by epr in the radiolysis of organic compounds

PERIODICAL: Kinetika i kataliz, v. 2, no. 2, 1961, 192-196

TEXT: In Ref. 1 (Dokl. AN SSSR, 131, 125, 1960) the authors have shown by means of epr that in the radiolysis of phenyl-substituted saturated hydrocarbons an energy transfer takes place from the saturated groups to the benzene ring. The present paper gives a preliminary survey on studies carried out on different molecules of the A-D type (A = aromatic energy acceptor, D = radiation-unstable substituent). The compounds studied were synthesized in the laboratory of A. D. Petrov, Corresponding Member AS USSR. Measurements were made on an ЭПР-2 (EPR-2) apparatus of the first association, by means of 1.6 Mev electrons. The radiochemical yield G of radicals was determined from the linear initial section of the accumulation curve. The accumulation of radicals was linear up to a concentration $\sim 10^{20}$ g^{-1}.

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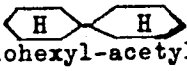
Study of ...

The integral dose was varied from 10 to 200 Mrad, the dose rate from 0.03-0.3 Mrad/sec. Irradiation and measurement were performed at 90-160°K. In some cases, "foreign" epr signals were observed at lower doses, whose intensity was $\sim 10^{18}$ spins/g. This is exemplified in Fig. 1 on the epr spectrum and the accumulation curve for o-ditolyl. The foreign signals are attributed to impurities. Their appearance may give rise to considerable discrepancy of the experimental data at different doses. The G values of several compounds are given in a table:

Compound	G, 1/100 ev	
Paraffin, polyethylene, cyclohexane,		
compounds of the class 	~5	
Cyclohexyl-hexine, cyclohexyl-acetylene	~4	
benzene	0.23	0.04
phenyl acetylene	0.09	
diphenyl	0.045	
p-terphenyl	0.045	

The following conclusions may be drawn: 1) For saturated hydrocarbons and

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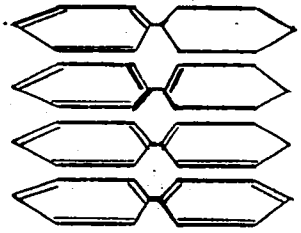
Study of ...

hydrocarbons with a double or triple bond the G values differ little and amount to several radicals per 100 ev of energy absorbed. 2) In aromatic hydrocarbons without saturated substituents G is by 1-2 orders of magnitude smaller than in saturated hydrocarbons. 3) The radiation stability of aromatic hydrocarbons increases with the degree of conjunction and seems to approach a limit. This also results from G for the following series:

Compound	G, 1/100 ev
	0.55
	0.2
	0.07
	0.045

The difference of G for aromatic and non-aromatic hydrocarbons permits to

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Study of ...

estimate the probability of energy transfer in a complicated AD molecule by measuring the G_{AD}: $G_{AD} = G_A(\gamma_A + \alpha\gamma_D) + G_D\gamma_D(1 - \alpha)$ (1), where G_A, G_D is the radiation yield of the radicals from the groups A and D, γ_A, γ_D are the electron parts of these groups, α the probability of energy transfer from D to A. At $\alpha = 0$, additivity occurs: $G = G_A\gamma_A + G_D\gamma_D$ (2). The probability of energy transfer is calculated from equation (1):
$\alpha = \left[(G_A\gamma_A + G_D\gamma_D) - G_{AD}\right]/(G_D - G_A)\gamma_D$ (3). The following classes of compounds were studied:

I.  ; R = CH_3, C_2H_5, cycl-C_6H_{11}; II.  ; R=CH_3, n = 0,1,2,3; R = C_2H_5, n = 0 and 3. III:  and R'  , where R,R' denotes a saturated hydrocarbon chain, a chain with a double bond, or with a CO group (number of C atoms up to 8). α, calculated by Eq. (3) was between 0.65-0.95. No systematic difference of α was found for the three classes. Fig. 2 shows their epr spectra. Classes I and II (Figs. 2b, 2c) mainly show lines corresponding to a cleavage of C-H bonds in the benzene ring. Class III (Fig. 2a) shows a more complicated spectrum. In the case of long chains of

Study of ...

the substituent lines predominate which are assigned to a bond cleavage in the substituent.. This may be explained by the fact that at $\alpha < 1$ a C-H bond cleavage in the ring becomes less probable than in the radical in spite of energy transfer, owing to a larger stability of the diphenyl group. The small difference between the spectra of I and II and that of benzene (Fig. 2a) is presumably due to the fact that a) the broad spectra of the alkyl radicals form only a background, or b) the stability of the C_6H_6 ring decreases on substitution. This problem has still to be clarified. The

authors express their gratitude to Ye. D. Kaplan, Ye. A. Chernyshev, V. F. Mironovich, of the Institut organicheskoy khimii AN SSSR (Institute of Organic Chemistry, AS USSR) for the synthesis of compounds, to G. K. Voronova for her cooperation. There are 2 figures, 1 table, and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc. The reference to English language publication reads as follows: N. K. Bridge, Nature, 185, 30, 1960.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AS USSR) Institut khimicheskoy kinetiki i goreniya SO AN SSSR (Institute of Chemical Kinetics and Burning of the Siberian Department, AS USSR)

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21768
S/195/61/002/002/002/004
B101/B208

Study of ...

SUBMITTED: October 29, 1960

Fig. 1. Accumulation curve and epr spectra of the radicals in o-ditolyl.
Legend: a) spectrum at a dose of 1 Mrad; b) at a dose of 200 Mrad; c) N_R in relative units.

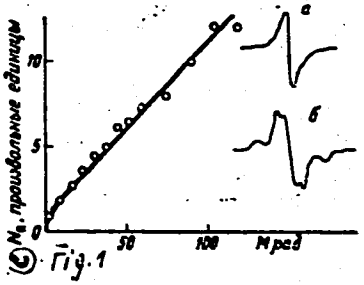

Fig. 1

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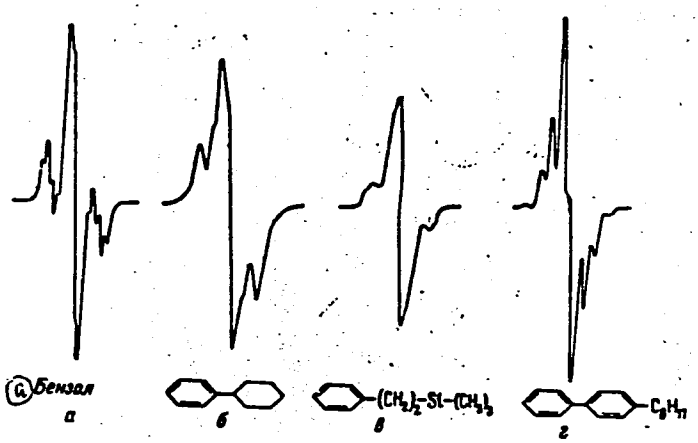
Study of ...

Fig. 2. Spectra of irradiated hydrocarbons.
Legend: a) benzene



Card 7/7

MOLIN, Yu.N.; CHKHEIDZE, I.I.; BUBEN, N.Ya.; VOYEVODSKIY, V.V.

Electron paramagnetic resonance spectra of irradiated dicarboxylic acids. Zhur.strukt.khim. 2 no.3:293-300 My-Je '61. (MIRA 15:1)

1. Institut khimicheskoy fiziki AN SSSR i Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya AN SSSR.
(Acids, Organic--Spectra)

TOLKACHEV, V.A.; MOLIN, Yu.N.; CHKHEIDZE, I.I.; BUBEN, N.Ya.; VOYEVODSKIY, V.V.

Electron paramagnetic resonance spectrum of frozen irradiated benzene. Dokl. AN SSSR 141 no.4:911-912 D '61. (MIRA 14:11)

1. Institut khimicheskoy fiziki AN SSSR i Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya AN SSSR. 2. Chlen-korrespondent AN SSSR (for Voyevodskiy).
(Benzene—Spectra)

32318
S/020/61/141/005/012/018
B101/B144

11.1510

AUTHORS: Boyarchuk, Yu. M., and Buben, N. Ya.

TITLE: Stabilization of free radicals in matrices of ionic crystals

PERIODICAL: Akademiya nauk SSSR. Doklady, v.141, no. 5, 1961, 1120 - 1123

TEXT: The authors discuss the problem of stabilization of free radicals in matrices in the presence of comparable quantities of the initial organic molecule and the matrix material. $MgCl_2 \cdot 6ROH$ and $CaCl_2 \cdot 4ROH$ (R = CH_3, C_2H_5, n-C_3H_7) are examined. These compounds were synthesized according to A. S. Osokin, ZhOKh, 8, 583 (1938). The samples were irradiated with 1.6-Mev electrons at -170°C (dose about 40 Mrad). The epr spectrum of the free radicals was recorded. Concentration of the paramagnetic centers was about 10^{20} per g. The epr spectra agreed with those of pure alcohols. The lines otherwise occurring on irradiation of ionic crystals due to formation of electron-capture centers were, however, absent. This is explained by a loosening of the crystal lattice due to the formation of a compound with alcohol. Stability of the free radicals was examined by treating the sample

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with a flow of dry N_2 of a given temperature. After the sample had reached the temperature of N_2 (after about 15 min), the epr spectrum was recorded. Then, the test was repeated at a higher N_2 temperature. Fig.2 shows that the concentration of free radicals in $MgCl_2 \cdot 6CH_3OH$ starts decreasing at a much higher temperature than in irradiated CH_3OH. At higher temperatures, the rapid decrease of concentration of free radicals might be also due to decomposition of $MgCl_2 \cdot 6CH_3OH$. After all, recombination is considerably retarded by the ionic matrix. At rising temperature, a change of the superfine structure of the epr spectrum was observed. For $C^{\cdot}H_2OH$, the ratio H_1/H_2 between the amplitude of the central component and the amplitude of the marginal components was 1 : 1.7 : 1. H_1/H_2 increased with rising temperature. According to Ref.9 (see below), this is explained by defrosting of rotation of $C^{\cdot}H_2$ groups due to temperature rise. In n-propyl (and n-amyl) alcohol irradiated in matrices it was found that the quintuplet